

a2 which has been sent from the card terminal device via the communication line, the management computer judges whether the use of the card should be allowed or not. When the card is judged to be usable, the management computer of the bank or the credit company returns the use allowance information of the card to the card terminal device of the origin of the transmission, and performs withdrawing process of the utilized sum of money from the specified account of the card.

Please amend the paragraph beginning on page 2, line 15 as follows:

a3 By the way, in such a system that uses a cash card or a credit card, it is needed to transmit an approval request for using the card to the management computer of the bank or the credit company from the card terminal device whether the user intends to use the card, and there has been a problem in that the process of using a card is complicated because the connection processing of the communication line is needed.

Please amend the paragraph beginning on page 3, line 3 as follows:

a4 The foregoing object and other objects of the invention have been achieved by the provision of an electronic money system, an electronic money terminal device and an information card. The utilization-history data, which is accumulated in the information card and which indicates the plural times of utilization, is read at the time when the sum of money which is to be paid by the user is withdrawn from the information card, and the respective utilization-history data which indicates the plural times of utilization and which have been read out by the respective ones of the plural electronic money terminal means are gathered in electronic money management means. By this, the identical utilization-histories are gathered in the electronic money management means in an overlapping manner; therefore, even though one of the identical utilization-histories has been lost, the other one of the utilization-histories can substitute the lost one. So, it is able to perform the tabulation surely.

Please amend the paragraph beginning on page 5, line 19 as follows:

a5 Referring to Fig. 1, an electronic money system generally designated as 1 includes: an electronic money management part 10 for issuing IC cards 50, for managing electronic money, and for performing settlement of the accounts; a money-depositing terminals device 21_x for depositing electronic money (money data) into the IC card 50; an electronic money terminal device 25_x of each store 3 for receiving a user's payment which is performed by means of an IC card 50 in which electronic money has been deposited; a vending machine 19_x by which a user is able to buy goods using an IC card 50; and a vending machine server 18 for receiving the utilization history (utilized sum of money, date and time, and others) of the IC card 50 from the vending machine 19_x and for accumulating this information. In this connection, plural money-depositing terminal devices 21_x, plural electronic money terminal device 25_x, and plural vending machines 19 are placed.

Please amend the paragraph beginning on page 6, line 10 as follows:

a6 In the electronic money management part 10, as shown in Fig. 2, the various kinds of servers (a security server 11, an electronic money server 13, an issue data server 14, an issuing device 15, an overall server 16, an access server 17 and a vending machine server 18) are connected to a data bus BUS1 which forms the Local Area Network (LAN), while the various kinds of terminal devices (money-depositing terminal devices 21₁ to 21_n, electronic money terminal devices 25₁ to 25_n, and vending machines 19₁ to 19_n) are connected to a data bus BUS2 which forms the second LAN. The first LAN and the second LAN are connected to each other via the access server 17.

Please amend the paragraph beginning on page 7, line 5 as follows:

a7 As shown in Fig. 4, the overall server 16 includes a CPU 16A which operates in accordance with an operation program stored in a storage part 16B, and captures dealings-history information such as money data which have been deposited via the respective money-depositing terminal devices 21₁ to 21_n and utilization-history of the IC card 50 (such as the IC card number, the utilized money, the date and time) which have been accumulated in the respective electronic money terminal devices 25₁ to 25_n from a communication part 16H via, for instance, the second

a7 LAN, the access server 17, the first LAN and the security server 11, and then stores them in a database 16C via a data bus BUS16.

Please amend the paragraph beginning on page 7, line 17 as follows:

a8 Besides, the overall server 16 stores data of money withdrawn from the user's specified account in the database 16C via the electronic money server 13, the withdrawn money data are supplied from a management computer 100 of a bank or a credit company.

Please amend the paragraph beginning on page 8, line 7 as follows:

a9 Besides, the vending machine server 18 accumulates the utilization history (such as the utilized money and the date and time) of the IC card 50 which has been transmitted from the respective vending machines 19₁ to 19_n, and stores this into the database 16C of the overall server 16, via the second LAN, the access server 17, the first LAN and the security server 11, at the rate of one time per day as an example.

Please amend the paragraph beginning on page 8, line 14 as follows:

am^o In this electronic money system 1, the issuing device 15 of the electronic money management part 10 issues an Integrated Circuit (IC) card 50 which is adapted to writing or reading of information without any contact, and distributes this to a user at the issuing window 2 of each tenant enterprise (Fig. 1). The IC card 50 has a memory; the one IC card number is previously stored in the memory, for each IC card.

Please amend the paragraph beginning on page 9, line 14 as follows:

am The signal processing circuit 54 includes a control part 59 which is comprised of a hard-logic circuit or a Central Processing Unit (CPU), and a memory part which is comprised of a Read Only Memory (ROM) 57 and a Random Access Memory (RAM) 58; the control part 59 analyzes the transmission data D1, on the RAM 58, in accordance with a program which has been written into the ROM 57, and then, on the basis of the analyzed transmission data D1, reads the various data D2 related to the electronic money which is stored in the RAM 58, and sends this to the modulation/demodulation circuit 53. The modulation/demodulation circuit 53

a11 modulates the data D2, and then radiates the data toward the data write/read device 60 as an electro-magnetic wave.

Please amend the paragraph beginning on page 11, line 4 as follows:

a12 The RAM 58 of the IC card 50 is adapted to storing various kinds of information which is related to electronic money; the information is stored in plural files which are managed by means of a directory. That is, management information D10 which is the high order information of the directory and which is comprised of the IC card number D11, the definition information D12 of the file and the directory, the access key D13 to the file, and others is stored in the RAM 58 of the IC card 50 as shown in Fig. 7A, as well as electronic money information D20 which is the low order information of the directory structure, as shown in Fig. 7B. As the electronic money information D20, the balance data D22 which represents the balance of the electronic money, the electronic money log data D23 which represents the utilization history of electronic money, the credit card utilization flag D24 (described hereinafter) which is previously registered at the time of distribution of the IC card 50, and the other information D25 related to the user (the staff number and/or the entering/leaving data) are written in the respective files; the credit card utilization flag D24 represents whether the shortage can be paid as the utilized moneys of the credit card or not when the balance account data D22 is less than the moneys which is to be paid by the user at the time of payment by the use of the IC card 50.

Please amend the paragraph beginning on page 12, line 2 as follows:

a13 The user who has received such IC card 50 would input the money data of the stated sum of money (electronic money) which substitutes the cash into the IC card 50, employing cash, a cash card, or a credit card, by the use of the money-depositing terminal device 21_x shown in Fig. 1. As shown in Fig. 8, the money-depositing terminal device 21_x has, on its armor, a card communication part 21D (same configuration as that of the loop antenna 62 and the modulation/demodulation circuit 61) for performing sending/receiving of data to the IC card 50 without touching it, a credit card communication part 21E for reading the data from the magnetic stripes of the cash card and/or the credit card 40, a cash throw-in port 21J, a touch panel wherein a display part 21F and a manipulate part 21G are integrated, and a receipt discharge part 21I for discharging a receipt which is a report of utilization.

Please amend the paragraph beginning on page 12, line 17 as follows:

a14
As the money-depositing method for inputting the money data (electronic money) in the IC card 50 by the use of the money-depositing terminal device 21_x, there are the cash-based depositing method, and the card-based depositing method which is performed by the use of the cash card or the credit card. On the cash-based depositing method, the user throws the cash into the cash throw-in port 21J of the money-depositing terminal device, whereby the money-depositing terminal device 21_x writes the money data of the sum of money of the thrown cash in the RAM 58 of the IC Card 50. While, on the card based depositing method, the user inserts the cash card which has been issued by the bank or the credit card which has been issued by the card company into the credit card communication part 21E and then inputs and specifies the desired sum of money via the manipulate part 21G, whereby the money-depositing terminal device 21_x transfers the specified money data from the specified account of the cash card or the credit card to the IC card 50. In this connection, a cash card designates a card for utilizing the bank deposits of the bank, while a credit card designates such a card that the credit company (the consumer loan company) which has issued the credit card loans the user the stated money, using the credit card.

Please amend the paragraph beginning on page 13, line 14 as follows:

a15
Referring to Fig. 9, a CPU 21A in the money-depositing terminal device 21_x is adapted to executing the money-depositing process shown in Fig. 10, in accordance with the program which is stored in a storage part 21B. When the user has put the IC card 50 near to the card communication part 21D and performed the start-of-depositing manipulation via the manipulate part 21G, the CPU 21A enters the money-depositing process at the step SP10 shown in Fig. 10, then proceeds to the next step SP11 and reads the information such as the card number from the IC card 50, and also waits for the user to input the money-depositing method via the inputting and manipulating part 21G.

Please amend the paragraph beginning on page 13, line 25 as follows:

Here, if the user has specified the cash-based depositing method, then the CPU 21A makes the cover of the cash throw-in port 21J open, and waits for the user to deposit the cash.

an When the user has thrown the cash into the cash throw-in port 21J, then the CPU 21A counts the deposited cash.

Please amend the paragraph beginning on page 14, line 14 as follows:

an In the case where the money-depositing method which has been specified by the user is the cash-based depositing method, the CPU 21A then proceeds to the step SP17 from the step SP12, and transmits the sum of money of the cash which has been thrown into the cash throw-in port 21J by the user to the IC card 50 via the card communication part 21D, and also transmits the money data of the money which has been inputted on a cash basis to the overall server 16 of the electronic money management part 10 via a communication part 21H, and stores the data therein. Thereupon, the control part 59 of the IC card 50 adds the money data of the sum of deposited money which has been sent from the money-depositing terminal device 21_x to the balance of electronic money of the RAM 58, so as to update the balance data D22 (Fig. 7B) which represents the balance of the electronic money account.

Please amend the paragraph beginning on page 15, line 3 as follows:

an On the other hand, in the case where the money-depositing method which has been specified by the user is the method for depositing money by the use of the cash card or credit card 40, the CPU 21A proceeds to the step SP13 from the step S12, and reads out the credit card number from the magnetic stripes of the cash card or credit card 40 which has been inserted into the credit card communication part 21E, and then transmits the credit card number, the password number of the cash card or credit card 40 which has been inputted at this time by the user via the manipulation part 21G, the authorization request for using the cash card or credit card 40, and the sum of money to the electronic money management part 10 (Fig. 1) via the communication part 21H. At this time, a mutual authentication part 21C of the money-depositing terminals device 21_x would judge whether the communication partner with whom the CPU 21A is communicating is a normal partner or not.

Please amend the paragraph beginning on page 15, line 19 as follows:

a19 Then, the electronic money management part 10 transmits the credit card number, the password number of the user inputting, the authorization request for using the cash card or credit card 40, and the sum of money, which have been sent from the money-depositing terminal device 21_x, to the management computer 100 of the bank or credit company for managing the cash card or the credit card, via the communication line.

Please amend the paragraph beginning on page 16, line 1 as follows:

a20 With respect to each cash card and credit card, the management computer 100 of the bank or credit company governs the cash card number and the credit card number as well as the normal password number, and if the combination of the credit card number and the password number inputted by the user which have been transmitted from the electronic money management part 10 coincides with the normal combination, the computer 100 receives the transmitted authorization request for using the credit card.

Please amend the paragraph beginning on page 16, line 17 as follows:

a21 In the case where the sum on money which has been specified at this time remains in the specified account and also the cash card or credit card 40 is usable, the management computer 100 of the bank or credit company approves utilization of the sum of money, and returns the approval for the utilization to the electronic money management part 10, and also transfers the sum of money from the specified account to the overall server 16 of the electronic money management part 10. On the other hand, in the case where the balance of the specified account is less than the specified money, or in the case where the use of the card is not approved on the basis of the information such as the term of the cash card or credit card 40 and the report of loss of the card, the management computer 100 of the bank or credit company does not give the approval for utilization of the sum of money, and returns the effect to the electronic money management part 10.

Please amend the paragraph beginning on page 17, line 13 as follows:

a22 If the result of the approval judgement is authorization, the CPU 21A proceeds to the step SP17 from the step SP15, and transmits the sum of money which has been specified by the user

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to the IC card 50. Thereupon, the control part 50 of the IC card 50 adds the money data of the deposited money which has been transmitted from the money-depositing terminal device 21_x to the balance of the electronic money of the RAM 58, thereby updating the balance data D22 (Fig. 7B) which represents the balance of the electronic money account.

Please amend the paragraph beginning on page 18, line 8 as follows:

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In this way, when the money data of the sum of the user's request (electronic money) has been inputted to the IC card 50 by the use of the cash, the money data of the inputted cash is transmitted and stored into the overall server 16 of the electronic money management part 10 from the money-depositing terminal device 21_x; on the other hand, if the money data of the sum of the user's request (electronic money) has been inputted to the IC card 50 by the use of the cash card or credit card 40, then the management computer 100 of the bank or credit company transmits the money data which equals the money data (electronic money) which has been put into the IC card 50 to the electronic money management part 10 from the account which has been specified at this time by the cash card or credit card 40, and stores in the overall server 16.

Please amend the paragraph beginning on page 19, line 4 as follows:

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In this manner, the money data of the sum of the user's request (electronic money) is inputted in the IC card 50, through the various kinds of depositing methods which are based on cash, a cash card, or a credit card. Then, the user is able to buy goods at stores, using the IC card in which the money data has been inputted.

Please amend the paragraph beginning on page 20, line 10 as follows:

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The armor of the IC card write/read part 25K has the card communication part 25D (same structure as that of the loop antenna 62 and the modulation/demodulation circuit 61) for performing sending and receiving of data to and from the IC card 50 without requiring the IC card to touch the card communication part, and a display part 25L on which the contents of trade are displayed. In the case where the electronic money terminal device 25_x is used, if the user has put the IC card 50 over the IC card write/read part 25K of the electronic money terminal device 25_x (has brought the IC card 50 near to it), it would be judged that there is the user's will to utilize the IC card 50 (that is, the will for consumption).

Please amend the paragraph beginning on page 20, line 21 as follows:

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The display part 25L includes an amount sold display part 25L₁, a shortage display part 25L₂, and a balance display part 25L₃. The amount sold which has been inputted by the clerk by means of the manipulation part 25G of the main body 25J is displayed on the amount sold display part 25L₁. If the balance of the IC card 50 is insufficient, the shortage is displayed on the shortage display part 25L₂. The electronic money balance of the IC card 50 after the utilization of the IC card 50 is displayed on the balance display part 25L₃.

Please amend the paragraph beginning on page 21, line 5 as follows:

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Referring now to Fig. 12, a CPU 25A of the electronic money terminal device 25_x would execute the IC card utilizing process shown in Fig. 13, in accordance with a program which is stored in a storage part 25B. When the user has put the IC card 50 near to a card communication part 25D of the IC card write/read part 25K and also the clerk has performed the start-of-dealings manipulation by manipulating the manipulation part 25G of the main body 25J, the CPU 25A enters the IC card utilizing procedure at the step SP20 of Fig. 13; then, it proceeds to the following step SP21, and reads the information such as the card number and the history data of the past utilization, which is described hereinafter, from the IC card 50, and also waits for the clerk to input the amount sold via the manipulation part 25G.

Please amend the paragraph beginning on page 21, line 18 as follows:

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When the clerk has inputted the prices of articles via the manipulation part 25G, the CPU 25A proceeds to the following step SP22, and subtracts the amount sold from the balance data D22 (Fig. 7B) which is stored in the RAM 58 of the IC card 50 on the basis of the amount sold, and also stores the electronic money utilized in the electronic money utilized storage area of the storage part 25B of the electronic money terminal device 25_x, along with the card number of the IC card 50 and the utilized date/time information. In this connection, date/time of utilization is detected by a timer T placed in the main body 25J.

Please amend the paragraph beginning on page 22, line 4 as follows:

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Here, in the case where the sum of money which would be spent is higher than the balance of electronic money which is stored in the IC card 50, the CPU 25A displays on the

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display part 25F and the shortage display part 25L₂, and also proceeds to the step SP24 from the following step SP23, and reads the credit card usable flag (Fig. 7B) stored in the IC card 50, and, if in the usable state, then proceeds to the step SP25 and stores the shortage at this time in the credit card utilized sum storing area of the storage part of the electronic money terminal device 25_x as the credit card utilized sum.

Please amend the paragraph beginning on page 22, line 14 as follows:

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By this, the sum of money which has been taken in from the balance of the IC card 50 is stored in the storage part 25B of the electronic money terminal device 25_x as the electronic money utilized information, along with the card number of the IC card 50 and the utilized date/time information, and the money which has been spent as the credit card utilized sum is stored in the storage part 25B of the electronic money terminal device 25_x as the credit card utilization information, along with the card number of the IC card 50 and the utilized date/time information.

Please amend the paragraph beginning on page 22, line 23 as follows:

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In this connection, when the IC card 50 is distributed to the user, the number of the available credit cards issued by the card company which the user utilizes and the card number of the IC card 50 which is distributed to the user are registered in the issue data server 14 (Fig. 2) of the electronic money management part 10, and also the credit card utilization flag D24 (Fig. 7B) of the RAM 58 of the IC card 50 is held in available state. The electronic money management part 10 frequently verifies by the number of the credit cards, through the card company, whether using of the card is allowed or not, on the basis of the information of the valid term, the loss of the car, the reports of delay and others.

Please amend the paragraph beginning on page 24, line 13 as follows:

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As a result of this, in the storage part 25B of the electronic money terminal device 25_x, the utilized money based on the electronic money which has been previously stored in the IC card 50 and also the credit-card-utilized money which has been transferred by the utilization of the credit card at the time when the IC card was short of the electronic money are separately stored, as the utilization-history related to the utilization of the IC card 50. In this connection, at

a32 this time, the date/time of the utilization and the IC card number are stored in the storage part 25B, along with the utilized sum of money, as the utilization-history information.

Please amend the paragraph beginning on page 25, line 4 as follows:

a33 The utilization-history block includes the communication assignment information D23₁, the log type information D23₂, the utilized date/time information D23₃, the terminal number information D23₄, the dealing (utilization) money information D23₅ in the utilization-history, the key version information D23₆, the balance information D23₇, and the signature information D23₈. The communication assignment information D23₁ is used for assigning the communication of the time of the utilization which is written in the block with the IC card 50. The log type information D23₂ represents the usage pattern of the electronic money in the utilization history (the usage pattern of depositing, spending, etc., and classification of whether the spending has been done utilizing the balance of the electronic money or the shortage has been transferred to the utilization of the credit card). The terminal number information D23₄ represents the number of the electronic money terminal device 25_x which has been used. The key version information D23₆ represents the version of the encipherment key of the communication data of the time when the IC card is utilized. The balance information D23₇ represents the electronic-money balance in the IC card after the dealing (utilization). In the communication between the electronic money terminal device 25_x assigns the communication by the use of the communication assignment information D23₈. The signature information D23₉ is represented using the key which has been specified with the above-mentioned key version information D23₆.

Please amend the paragraph beginning on page 27, line 23 as follows:

a34 In this connection, the CPU 25A of the electronic money terminal device 25_x writes the electronic money log data D23 in the RAM 58 of the IC card 50 at the time of card utilization when the electronic money log data D23 has been made, and besides adds the card assignment information D23A to the electronic money log data D23 and writes in the storage part 25B of the electronic money terminal device 25_x. The electronic money log data D23 which have been written in the IC card 50 are accumulated in the IC card 50 for the past fifteen times of utilization; for each new utilization of the IC card 50, such electronic money log data D23 is

034 written in the electronic money terminal device 25_x on which the IC card 50 has been utilized, along with the card assignment information D23A.

Please amend the paragraph beginning on page 29, line 21 as follows:

035 In this state, in plural electronic money terminal devices 25_x ($25_1, 25_2, \dots, 25_n$), the same electronic money log data D23 of each IC card 50 ($50_1, 50_2, \dots, 50_n$) are stored. However, on the electronic money log data D23 which is stored in the electronic money terminal device 25_x which has been used at the time of the dealing when the electronic money log data D23 has occurred (the time when the IC card has been utilized) out of the same electronic money log data D23 which have been distributively stored in these every electronic money terminal devices 25_x , the dealing terminal flag (Terminal Transaction Flag) D23A₂ (Fig. 14B) of the card assignment information D23A (Fig. 14B) which are stored along with the electronic money log data D23 is set, so that only the electronic money log data D23 on which the dealing terminal flag has been set out of the electronic money log data D23 which have been gathered to the electronic money management part 10 is used at the time of the settlement of the account.

Please amend the paragraph beginning on page 31, line 10 as follows:

036 Therefore, the sum of money which have been accumulated as the credit-card-utilized money because of a shortage of electronic money at the time when the user utilizes the IC card 50 is collectively withdrawn from the user's account with the management computer 100 of the bank or credit company, and stored in the overall server 16 of the electronic money management part 10.

Please amend the paragraph beginning on page 36, line 11 as follows:

037 In the above configuration, in the electronic money system 1, when plural users use the respective IC cards 50 ($50_1, 50_2, \dots, 50_n$), the electronic money log data D23 of the past fifteen times of utilization is accumulated in the respective IC cards 50 ($50_1, 50_2, \dots, 50_n$). Each time a new electronic money log data D23 has occurred, the oldest electronic money log data D23 is discarded, in regular order. Hence, in the IC card 50, the electronic money log data D23 of the newest fifteen times of utilization would be accumulated.

Please amend the paragraph beginning on page 36, line 20 as follows:

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When the user uses the IC card 50, all electronic money log data D23 of the past fifteen times of utilization which have been stored in the IC card 50 are accumulated in the storage part 25B of the electronic money terminal devices 25_x. Hence, the histories of the utilization which have been treated on any of the electronic money terminal devices 25_x are accumulated.

Please amend the paragraph beginning on page 37, line 5 as follows:

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Therefore, in plural electronic money terminal devices 25_x, the respectively identical electronic money log data D23 would exist. However, to the electronic money log data D23 which has occurred at the time of current utilization of the IC card 50, the dealing terminal flag D23A₂ is set, and the data D23 is accumulated in the electronic money terminal device 25_x which has been used at the time of the current dealing.

Please amend the paragraph beginning on page 37, line 24 as follows:

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Out of these utilization-history data, only the data on which the dealing terminal flag D23A₂ is set is distinguished, so that the utilization-history data which are obtained from the electronic money terminal device 25_x which has been practically used for the dealing are gathered. At this time, if any electronic money terminal device 25_x loses the utilization-history data accumulated therein, then it is needed to substitute the identical electronic money log data D23 which has been accumulated in the other electronic money terminal device 25_x for the data on which the dealing terminal flag D23A₂ is set in the lost utilization-history data. So, at the time when the settlement of accounts is performed in the electronic money management part 10, the distinguished log data on which the dealing terminal flag is set is compared with the other utilization-history data on which the dealing terminal flag is not set; if it is deemed that the distinguished log data has been lost (if the result of the comparison is a mismatch), it is able to substitute the other utilization-history data for the (lost) distinguished log data.

Please amend the paragraph beginning on page 40, line 6 as follows:

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Further, in the above-mentioned embodiment, such a case has been described that the utilization histories have been gathered employing the dealing terminal flag D23A₂ and coordinated. However, the present invention is not limited to this, but as an example, the